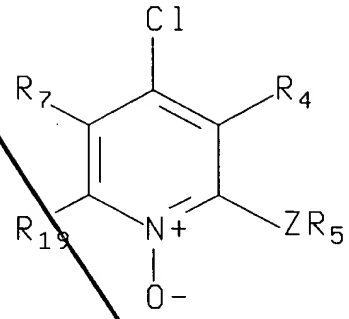
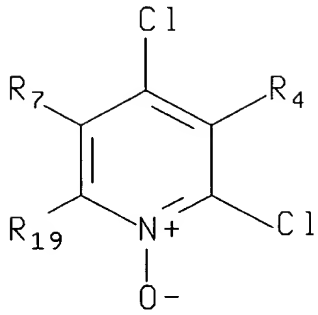
CLAIMS

1. A compound of the formula



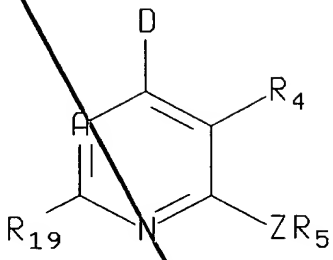
X

,



XI

or



IV

wherein R_7 is hydrogen, methyl, fluoro, chloro, bromo, iodo, cyano, hydroxy, -O(C_1-C_4 alkyl), -C(O)(C_1-C_4 alkyl), -C(O)O(C_1-C_4 alkyl), -OCF_3, CF_3, -CH_2OH, -CH_2OCH_3 or -$CH_2OCH_2CH_3$;

D is chloro, hydroxy or cyano;

R_{19} is methyl or ethyl;

R_5 is phenyl or pyridyl and R_5 is substituted by two or three substituents independently selected from C_1-C_4 alkyl, chloro and bromo, except that no more than one such substituent can be bromo;

R_4 is hydrogen, C_1-C_4 alkyl, fluoro, chloro, bromo, iodo, C_1-C_4 alkoxy, trifluoromethoxy, -CH_2OCH_3, -$CH_2OCH_2CH_3$, -$CH_2CH_2OCH_3$, -CH_2OF_3, CF_3, amino, nitro, -NH(C_1-C_4 alkyl), -$N(CH_3)_2$, -$NHCOCH_3$, -$NHCONHCH_3$, -SO_n(C_1-C_4 alkyl) wherein n is 0, 1 or 2, cyano, hydroxy,

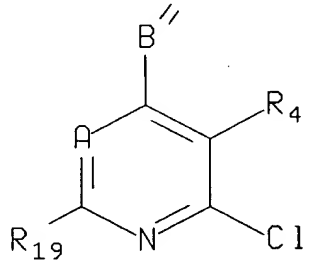
$-CO(C_1-C_4$ alkyl), -CHO, cyano or $-COO(C_1-C_4$ alkyl) wherein said C_1-C_4 alkyl may optionally contain one double or triple bond and may optionally be substituted with one substituent selected from hydroxy, amino, $-NHCOCH_3$, $-NH(C_1-C_2$ alkyl), $-N(C_1-C_2$ alkyl)$_2$, $-COO(C_1-C_4$ alkyl), $-CO(C_1-C_4$ alkyl), C_1-C_3 alkoxy, C_1-C_3 thioalkyl, fluoro, chloro, cyano and nitro;

A is N, CH or CH_3;

and Z is O, NH, $N(CH_3)$, S or CH_2, with the proviso that when A is CH or CCH_3, then Z must be O or S.

2. A compound according to claim 1 having the formula XI wherein R_7 is hydrogen or methyl and R_4 is hydrogen, C_1-C_4 alkyl, $-O(C_1-C_4$ alkyl), chloro or cyano.

3. A compound of the formula



XII

wherein R_{19} is methyl or ethyl;

R_4 is hydrogen, C_1-C_4 alkyl, fluoro, chloro, bromo, iodo, C_1-C_4 alkoxy, trifluoromethoxy, $-CH_2OCH_3$, $-CH_2OCH_2CH_3$, $-CH_2CH_2OCH_3$, $-CH_2OF_3$, CF_3, amino, nitro, $-NH(C_1-C_4$ alkyl), $-N(CH_3)_2$, $-NHCOCH_3$, $-NHCONHCH_3$, $-SO_n(C_1-C_4$ alkyl) wherein n is 0, 1 or 2, cyano, hydroxy, $-CO(C_1-C_4$ alkyl), -CHO, cyano or $-COO(C_1-C_4$ alkyl) wherein said C_1-C_4 alkyl may optionally contain one double or triple bond and may optionally be substituted with one substituent selected from hydroxy, amino, $-NHCOCH_3$, $-NH(C_1-C_2$ alkyl), $-N(C_1-C_2$ alkyl)$_2$, $-COO(C_1-C_4$ alkyl), $-CO(C_1-C_4$ alkyl), C_1-C_3 alkoxy, C_1-C_3 thioalkyl, fluoro, chloro, cyano and nitro;

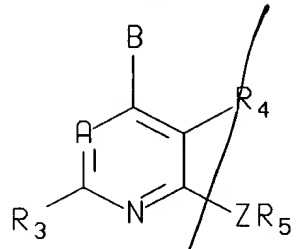
A is N, CH or CCH_3;

B" is $-NR_1R_2$, $-CR_1R_2R_{11}$, $-C(=CR_2R_{12})R_1$, $-NHCHR_1R_2$, $-OCHR_1R_2$, $-SCHR_1R_2$, $-CHR_2OR_{12}$, $-CHR_2SR_{12}$, $-C(S)R_2$ or $-C(O)R_2$;

with the proviso that when A is CH or CCH_3, then B" is $-NR_1R_2$, $-NHR_1R_2$, $-OCHR_1R_2$ or cyano and R_4 is an electron deficient group such as NO_2, $-COO(C_1-C_4$ alkyl), $-C(=O)CH_3$, -COOH or cyano.

4. A compound according to claim 3, wherein B" is $-NR_1R_2$ or $-NHCHR_1R_2$ and A is CH or CH_3.

5. A process for preparing a compound of the formula



I

or a pharmaceutically acceptable salt thereof, wherein

A is $-CR_7$ or N;

B is $-NR_1R_2$, $-CR_1R_2R_{11}$, $-C(=CR_2R_{12})R_1$, $-NHCHR_1R_2$, $-OCHR_1R_2$, $-SCHR_1R_2$, $-CHR_2OR_{12}$, $-CHR_2SR_{12}$, $-C(S)R_2$ or $-C(O)R_2$;

Z is NH, O, S, $-N(C_1-C_2$ alkyl) or $-C(R_{13}R_{14})$, wherein R_{13} and R_{14} are each, independently, hydrogen, trifluoromethyl or methyl, or one of R_{13} and R_{14} is cyano and the other is hydrogen or methyl;

R_1 is C_1-C_6 alkyl which may optionally be substituted with one or two substituents R_8 independently selected from the group consisting of hydroxy, fluoro, chloro, bromo, iodo, CF_3 and C_1-C_4 alkoxy, and wherein said C_1-C_6 alkyl and the C_1-C_4 alkyl moiety of said C_1-C_4 alkoxy may optionally contain one carbon-carbon double or triple bond;

R_2 is C_1-C_{12} alkyl, aryl or $-(C_1-C_4$ alkylene)aryl wherein said aryl is phenyl, naphthyl, thienyl, benzothienyl, pyridyl, quinolyl, pyrazinyl, pyrimidyl, imidazolyl, furanyl, benzofuranyl, benzothiazolyl, isothiazolyl, benzisothiazolyl, benzisoxazolyl, benzimidazolyl, indolyl, or benzoxazolyl; 3- to 8-membered cycloalkyl or $-(C_1-C_6$ alkylene)cycloalkyl, wherein one or two of the ring carbons of said cycloalkyl having at least 4 ring members and the cycloalkyl moiety of said $-(C_1-C_6$ alkylene)cycloalkyl having at least 4 ring members may optionally be replaced by an oxygen or sulfur atom or by $N-R_9$ wherein R_9 is hydrogen or C_1-C_4 alkyl; and wherein each of the foregoing R_2 groups may optionally be substituted with from one to three substituents independently selected from chloro, fluoro and C_1-C_4 alkyl, or with one substituent selected from bromo, iodo, C_1-C_6 alkoxy, $-O-CO-(C_1-C_6$ alkyl), $-O-CO-N(C_1-C_4$ alkyl)(C_1-C_2 alkyl), $-S(C_1-C_6$ alkyl), CN, NO_2, $-SO(C_1-C_4$ alkyl), and $-SO_2(C_1-C_4$ alkyl), and wherein said C_1-C_{12} alkyl and the C_1-C_4 alkylene moiety of said $-(C_1-C_4$ alkylene)aryl may optionally contain one carbon-carbon double or triple bond;

or $-NR_1R_2$ may form a saturated 5- to 8-membered carbocyclic ring which may optionally contain one or two carbon-carbon double bonds and in which one or two of the ring carbons may optionally be replaced by an oxygen or sulfur atom;

R_3 is methyl, ethyl, fluoro, chloro, bromo, iodo, cyano, methoxy, OCF_3, methylthio, methylsulfonyl, CH_2OH, or CH_2OCH_3;

R_4 is hydrogen, C_1-C_4 alkyl, fluoro, chloro, bromo, iodo, C_1-C_4 alkoxy, trifluoromethoxy, $-CH_2OCH_3$, $-CH_2OCH_2CH_3$, $-CH_2CH_2OCH_3$, $-CH_2OF_3$, CF_3, amino, nitro, $-NH(C_1$-C_4 alkyl), $-N(CH_3)_2$, $-NHCOCH_3$, $-NHCONHCH_3$, $-SO_n(C_1$-C_4 alkyl) wherein n is 0, 1 or 2, cyano, hydroxy, $-CO(C_1$-C_4 alkyl), -CHO, cyano or $-COO(C_1$-C_4 alkyl) wherein said C_1-C_4 alkyl may optionally contain one double or triple bond and may optionally be substituted with one substituent selected from hydroxy, amino, $-NHCOCH_3$, $-NH(C_1$-C_2 alkyl), $-N(C_1$-C_2 alkyl)$_2$, $-COO(C_1$-C_4 alkyl), $-CO(C_1$-C_4 alkyl), C_1-C_3 alkoxy, C_1-C_3 thioalkyl, fluoro, chloro, cyano and nitro;

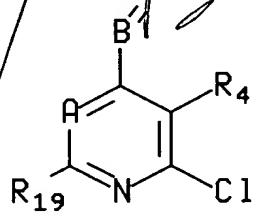
R_5 is phenyl or pyridyl, and R_5 is substituted with from one to three substituents independently selected from fluoro, chloro, C_1-C_6 alkyl, and C_1-C_6 alkoxy, or with one substituent selected from hydroxy, iodo, bromo, formyl, cyano, nitro, trifluoromethyl, amino, $-(C_1$-C_6 alkyl)$O(C_1$-C_6)alkyl, $-NHCH_3$, $-N(CH_3)_2$, -COOH, $-COO(C_1$-C_4 alkyl), $-CO(C_1$-C_4 alkyl), $-SO_2NH(C_1$-C_4 alkyl), $-SO_2N(C_1$-C_4 alkyl)$(C_1$-C_2 alkyl), $-SO_2NH_2$, $-NHSO_2(C_1$-C_4 alkyl), $-S(C_1$-C_6 alkyl) and $-SO_2(C_1$-C_6 alkyl), and wherein the C_1-C_4 alkyl and C_1-C_6 alkyl moieties of the foregoing R_5 groups may optionally be substituted with one or two fluoro groups or with one substituent selected from hydroxy, amino, methylamino, dimethylamino and acetyl; and

R_7 is hydrogen or methyl;

with the proviso that when A is CH or CCH_3, then R_4 is an electron deficient group such as NO_2, $-COO(C_1$-C_4 alkyl), $-C(=O)CH_3$, -COOH or CN;

or a pharmaceutically acceptable salt of such compound;

comprising reacting a compound of the formula



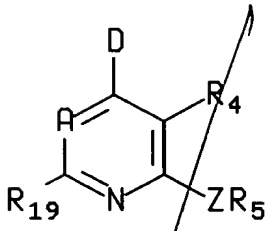
XII

wherein R_{19} is methyl or ethyl and A is N, CH or CCH_3; and wherein when A is N, then B" and R_4 are defined, respectively, as B and R_4 are defined as above, and when A is CH or CH_3, then B" is $-NR_1R_2$, $-NHR_1R_2$, $-OCHR_1R_2$ or cyano and R_4 is an electron deficient group such as NO_2, $-COO(C_1$-C_4 alkyl), $-C(=O)CH_3$, -COOH or CN;

with a compound of the formula R_5ZH, wherein R_5 and Z are defined as above, and then optionally converting the compound of formula I formed in such reaction into a pharmaceutically acceptable salt.

6. A process according to claim 5 wherein R_4 in both the compound of formula I and the compound of formula IV is nitro.

7. A process for preparing a compound of the formula



IV

wherein R_{19} is methyl or ethyl;

D is chloro;

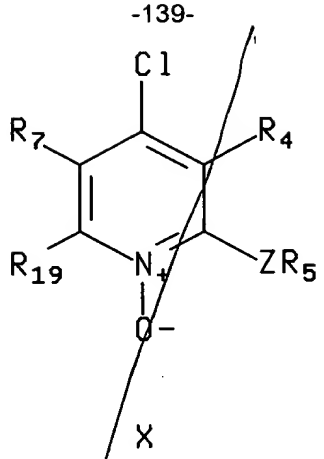
A is $-CR_7$ or N;

Z is NH, O, S, $-N(C_1-C_2$ alkyl) or $-C(R_{13}R_{14})$, wherein R_{13} and R_{14} are each, independently, hydrogen, trifluoromethyl or methyl, or one of R_{13} and R_{14} is cyano and the other is hydrogen or methyl;

R_4 is hydrogen, C_1-C_4 alkyl, fluoro, chloro, bromo, iodo, C_1-C_4 alkoxy, trifluoromethoxy, $-CH_2OCH_3$, $-CH_2OCH_2CH_3$, $-CH_2CH_2OCH_3$, $-CH_2OF_3$, CF_3, amino, nitro, $-NH(C_1-C_4$ alkyl), $-N(CH_3)_2$, $-NHCOCH_3$, $-NHCONHCH_3$, $-SO_n(C_1-C_4$ alkyl) wherein n is 0, 1 or 2, cyano, hydroxy, $-CO(C_1-C_4$ alkyl), -CHO, cyano or $-COO(C_1-C_4$ alkyl) wherein said C_1-C_4 alkyl may optionally contain one double or triple bond and may optionally be substituted with one substituent selected from hydroxy, amino, $-NHCOCH_3$, $-NH(C_1-C_2$ alkyl), $-N(C_1-C_2$ alkyl)$_2$, $-COO(C_1-C_4$ alkyl), $-CO(C_1-C_4$ alkyl), C_1-C_3 alkoxy, C_1-C_3 thioalkyl, fluoro, chloro, cyano and nitro; and

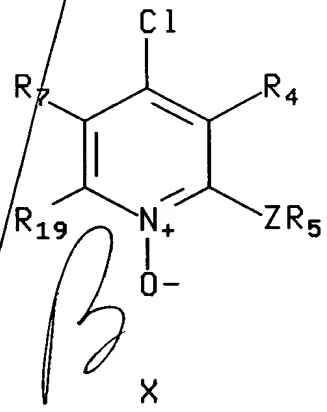
R_5 is phenyl or pyridyl, and R_5 is substituted with from one to three substituents independently selected from fluoro, chloro, C_1-C_6 alkyl, and C_1-C_6 alkoxy, or with one substituent selected from hydroxy, iodo, bromo, formyl, cyano, nitro, trifluoromethyl, amino, $-(C_1-C_6$ alkyl)$O(C_1-C_6)$alkyl, $-NHCH_3$, $-N(CH_3)_2$, -COOH, $-COO(C_1-C_4$ alkyl), $-CO(C_1-C_4$ alkyl), $-SO_2NH(C_1-C_4$ alkyl), $-SO_2N(C_1-C_4$ alkyl)$(C_1-C_2$ alkyl), $-SO_2NH_2$, $-NHSO_2(C_1-C_4$ alkyl), $-S(C_1-C_6$ alkyl) and $-SO_2(C_1-C_6$ alkyl), and wherein the C_1-C_4 alkyl and C_1-C_6 alkyl moieties of the foregoing R_5 groups may optionally be substituted with one or two fluoro groups or with one substituent selected from hydroxy, amino, methylamino, dimethylamino and acetyl;

comprising reacting a compound of the formula



wherein R_{19}, R_4 and R_5 are defined as above and R_7 is hydrogen, methyl, fluoro, chloro, bromo, iodo, cyano, hydroxy, -O(C_1-C_4 alkyl), -C(O)(C_1-C_4 alkyl), -C(O)O(C_1-C_4 alkyl), -OCF_3, CF_3, -CH_2OH, -CH_2OCH_3 or -$CH_2OCH_2CH_3$, with phorphorus trichloride.

8. A process for preparing a compound of the formula



wherein R_{19} is methyl or ethyl;

A is -CR_7 or N;

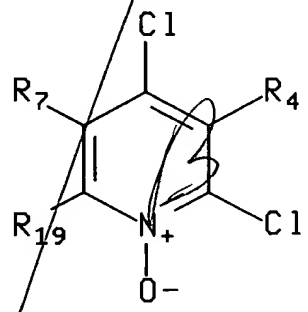
Z is O, S or -$C(R_{13}R_{14})$, wherein R_{13} and R_{14} are each, independently, hydrogen, trifluoromethyl or methyl, or one of R_{13} and R_{14} is cyano and the other is hydrogen or methyl;

R_4 is hydrogen, C_1-C_4 alkyl, fluoro, chloro, bromo, iodo, C_1-C_4 alkoxy, trifluoromethoxy, -CH_2OCH_3, -$CH_2OCH_2CH_3$, -$CH_2CH_2OCH_3$, -CH_2OF_3, CF_3, amino, nitro, -NH(C_1-C_4 alkyl), -$N(CH_3)_2$, -$NHCOCH_3$, -$NHCONHCH_3$, -SO_n(C_1-C_4 alkyl) wherein n is 0, 1 or 2, cyano, hydroxy, -CO(C_1-C_4 alkyl), -CHO, cyano or -COO(C_1-C_4 alkyl) wherein said C_1-C_4 alkyl may optionally contain one double or triple bond and may optionally be substituted with one substituent selected from hydroxy, amino, -$NHCOCH_3$, -NH(C_1-C_2 alkyl), -N(C_1-C_2 alkyl)$_2$, -COO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), C_1-C_3 alkoxy, C_1-C_3 thioalkyl, fluoro, chloro, cyano and nitro; and

R_5 is phenyl or pyridyl, and R_5 is substituted with from one to three substituents independently selected from fluoro, chloro, C_1-C_6 alkyl, and C_1-C_6 alkoxy, or with one substituent selected from hydroxy, iodo, bromo, formyl, cyano, nitro, trifluoromethyl, amino, -(C_1-C_6

alkyl)O(C_1-C_6)alkyl, -$NHCH_3$, -$N(CH_3)_2$, -COOH, -COO(C_1-C_4 alkyl), -CO(C_1-C_4 alkyl), -SO_2NH(C_1-C_4 alkyl), -SO_2N(C_1-C_4 alkyl)(C_1-C_2 alkyl), -SO_2NH_2, -$NHSO_2$(C_1-C_4 alkyl), -S(C_1-C_6 alkyl) and -SO_2(C_1-C_6 alkyl), and wherein the C_1-C_4 alkyl and C_1-C_6 alkyl moieties of the foregoing R_5 groups may optionally be substituted with one or two fluoro groups or with one substituent selected from hydroxy, amino, methylamino, dimethylamino and acetyl;

comprising reacting a compound of the formula



XI

wherein R_4, R_7 and R_{19} are defined as above, with a compound of the formula R_5OH or R_5SH, wherein R_5 is defined as above, in the presence of a base.